Project Proposal

Client: Emozo

What business question(s) will this answer?

How accurate is Emozo's facial coding technology in measuring a person's unconscious emotional response?

How would the results be used in the company?

The results are part of Emozo's validation process for their emotion recognition technology.

Description of the data and how it will be accessed. Include each variable and the sample size.

We will have ratio data for each subject measuring the intensity of each emotion that Emozo's software can detect: Neutral, Happy, Sad, Angry, Surprised, Scared, and Disgusted. This data will be exported from Emozo's platform on a csv file. Our sample size will approximately be 100-150 college students or more and the sample size will be diverse in gender, age, and race. We will collect ethnicity data in our experiment.

Describe the analyses to be performed.

We will run our experiment on the Emozo platform. We will expose each subject to two videos. One video will be an advertisement evoking a sad emotion. The other video will consist of two parts: a 10-second image to establish a baseline emotion (Neutral) followed by a second 10-second image which will trigger happiness.

For each video, our team will hypothesize the average percent change of the ratio that the target emotion has on the subject's face. We will look at sadness for the advertisement and happiness for the image stimuli and focus on the change from their baseline emotion ratios. This will allow us to measure the accuracy of facial expression detection alone (i.e how well the software can pick up changes from the baseline). Each test will have a single follow-up question which asks the participant to identify the one emotion they felt most out of the 7 emotions that Emozo measures.

When analyzing our data, we will look at Emozo's output for each video separately and we will focus on the emotion intended for that video. We will specifically look at a critical interval in Emozo's time-series output which captures the participant's peak unconscious shift of emotions. We will visualize the averages of that specific emotion's change in facial ratio for all subjects in a series of graphs, comparing the results of different age ranges, races, and genders to spot noticeable patterns of differences that may impact our final analysis.

We will report the percent of all subjects whose intended emotion's percent change is between a decided margin of error of the hypothesis. These results will be used to reflect the accuracy of Emozo's technology.

We will recruit participants through academic and personal connections. Our professor will administer the survey to 100-150 students who are doing marketing research. We might exceed this range. Each of our project members will also send this survey to colleagues in the various organizations we are a part of, including but not limited to the DATA Initiative Lab, professional business fraternities, the Northeastern Marketing Association, and the Northeastern DATA Club.

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What are the deliverables for the client?

The final deliverable for this project is a presentation with results validation from the experiment. Our presentation will summarize our literature review findings, experiment design, validity results, and insights gained from the project.

Outline the project schedule

Week	Date	Goal
1	10/03/22	Client Introduction
2	10/10/22	Literature Review
3	10/17/22	Literature Review
4	10/24/22	Experiment Design + Emozo Interface Onboarding
5	10/31/22	Proposal Feedback and Adjustments
6	11/07/22	Survey Design, Subject Collection
7	11/14/22	Estimated Experiment Period **(11/14-11/21)**
8	11/21/22	Data Analysis + Visualization
9	11/28/22	Final Deliverable (Results)
10	12/05/22	Live Presentation